Asking research questions

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Title/Role: Teacher Librarian
Organization/School Name: Penn Elementary School
Location: Iowa

Grade Level: 5, 6
Type of Lesson: Lesson in a unit
Type of Schedule: Combination
Collaboration Continuum: Moderate
Content Area: Language Arts
Content Topic: Discoveries and Inventions

Standards for the 21st-Century Learner

Skills Indicator(s):
1.1.3 Develop and refine a range of questions to frame the search for new understanding.

Dispositions Indicator(s):
1.2.1 Display initiative and engagement by posing questions and investigating the answers beyond the collection of superficial facts.

Responsibilities Indicator(s):
1.3.2 Seek divergent perspectives during information gathering and assessment.

Self-Assessment Strategies Indicator(s):
1.4.1 Monitor own information-seeking processes for effectiveness and progress, and adapt as necessary.

Scenario: Classroom teachers and the TL met to plan a research project. Students will conduct research on a discovery or invention. The teachers have a list of possible questions to guide the research. To increase student interest in the project, the TL proposed letting students first try to develop their own research questions. If the students have trouble coming up with good questions, they can still choose from the list of possible questions. Students have already practiced asking questions of text before, during and after reading. To help build their background knowledge, they have already read a short nonfiction book on a discovery or invention. To begin the research project, students will come to the library for a lesson on asking questions. This will be a two-part lesson. During the first week the TL will model how to ask questions. The following week the students will develop their own research questions. The TL will check the students' questions before they begin their research. Students may be asked to change their questions or choose one from the list of research questions.

Overview: What makes a good research question? We will be exploring the difference between fact-based questions or "closed" questions and questions that require making inferences and synthesizing information or "open" questions. We will discuss why open questions make better research questions.

Final Product: After they complete their research, students will be writing a research paper. The library lessons on questioning will help them develop better questions to guide their research.
Library Lesson: Students will be able to identify questions as being either closed (or requiring a simple factual answer) or open (or requiring a complicated answer that involves both facts and opinions).

Estimated Lesson Time: 60 minutes

Assessment

Product: For this lesson the students will develop a list of fact-based questions, or "closed" questions and a list of questions requiring higher level thinking, or "open" questions. For their research they will be using open questions.

Process: TL and teacher observe students developing questions to see if they have correctly identified closed and open questions. Students will also work with a partner to check their questions.

Student self-questioning: Did I understand the task? Did I complete all the work? Did I check to see that my questions were fact questions (yes or no; who, what, when, where) or idea questions (how or why)?

Instructional Plan

Resources students will use:
Text (books, letters, poems, newspapers, etc.)

Resources instructor will use:
Projector
White board
Other

Other instructor resources: Paper

Instruction/Activities

Direct instruction: Show a picture of a wheel on the interactive whiteboard. Ask students what they know about this. They will probably be able to identify that it is something that goes around and around and that it is used on a car or a bicycle to help it move. If we wanted to learn more about the invention of the wheel, what are some questions that we might ask? Have the students brainstorm research questions. Record their questions on the whiteboard.

Modeling and guided practice: TL explains that while these are all useful questions, some of these questions make better research questions than others. "Closed" questions will have a short answer. These include facts or a "yes" or "no" questions. "Open" questions require a long answer. These often begin with "how" or "why." Open questions make the best research questions because they aren't easy to answer and we need to look at many different information sources to find the answers. Show the Closed vs. Open Questions chart. Use the questions generated by the class to complete the Asking Questions sheet on the whiteboard. Then show students how to use the checklist to make sure the questions have been correctly identified as closed or open.

Independent practice: During the second lesson the students will develop their own list of questions for their research topic using the Asking Questions sheet. They will then identify the questions as closed or open questions. TL and teacher assess the Research Planning Sheet to see if the students have
correctly identified closed and open questions.

Sharing and reflecting: Students will put a star next to the questions they will use for their research project. They will then use the checklist to make sure they have chosen open questions that will help guide their research. After they have completed the checklist they may share their open research questions with a partner.

Have you taught this lesson before: Yes

Strategies for differentiation: Provide additional assistance for students who need it. If students are not able to come up with their own questions, have them choose three questions from the list of teacher-generated questions.

AASL/Common Core State Standards Crosswalk

English Language Arts:

CC.5.SL.3 » English Language Arts » Comprehension and Collaboration » 3. Summarize the points a speaker makes and explain how each claim is supported by reasons and evidence. (5)

CC.5.W.7 » English Language Arts » Research to Build and Present Knowledge » 7. Conduct short research projects that use several sources to build knowledge through investigation of different aspects of a topic. (5)

CC.6.W.1.b » English Language Arts » Text Types and Purposes » b. Support claim(s) with clear reasons and relevant evidence, using credible sources and demonstrating an understanding of the topic or text. (6)

CC.6.W.7 » English Language Arts » Research to Build and Present Knowledge » 7. Conduct short research projects to answer a question, drawing on several sources and refocusing the inquiry when appropriate. (6)

CC.5.SL.1 » English Language Arts » Comprehension and Collaboration » 1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacherled) with diverse partners on grade 5 topics and texts, building on others' ideas and expressing their own clearly. (5)

CC.5.SL.1.c » English Language Arts » Comprehension and Collaboration » c. Pose and respond to specific questions by making comments that contribute to the discussion and elaborate on the remarks of others. (5)
## Closed and Open Questions

<table>
<thead>
<tr>
<th><strong>Closed</strong></th>
<th><strong>Open</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Facts</strong></td>
<td>Ideas (facts + opinions)</td>
</tr>
<tr>
<td>Short answers</td>
<td>Long answers</td>
</tr>
<tr>
<td>• Yes or no</td>
<td>• How something works (Why or How)</td>
</tr>
<tr>
<td>• Facts (Who, What, Where, When)</td>
<td>• Ideas (Why, How come, I wonder)</td>
</tr>
<tr>
<td>Quick and easy to answer</td>
<td>A lot of research is needed</td>
</tr>
</tbody>
</table>
## Asking Questions

1. **My research topic is:** ______________________________

2. **What I already know about this topic:** ________________________________
   
   ____________________________________________________________________
   
   ____________________________________________________________________
   
   ____________________________________________________________________

3. **Some questions I want to research about this topic and whether the questions are closed or open:**

<table>
<thead>
<tr>
<th>Questions</th>
<th>Closed or Open</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td></td>
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</tbody>
</table>
Question Checklist

Directions: Use the checklist to see if your questions are closed or open:

The question is closed because it:
   _____ needs only facts to answer
   _____ needs only a short answer
   _____ begins with who, what, where or when or is a yes or no question
   _____ will only take a little research to answer

OR The question is open because it:
   _____ needs both facts and opinions to answer
   _____ needs a long answer
   _____ begins with how or why
   _____ will take a lot of research to answer